

Amendments to the Claims

1. (canceled) A wireless communication device for communications with clients in a communication network, the device comprising:

- at least one antenna;
- a receive processor that processes receive signals from said antenna and provides corresponding receive location information;
- a media access controller that receives signals from said receive processor and provides output signals for transmission;
- a location-information transformer that transforms said receive location information into transmit location information; and
- a transmit processor that provides transmit signals to said antenna in response to at least one of said output signals and said transmit location information.

2. (currently amended) The A wireless communication device for communications with clients in a communication network of claim 1, the device comprising:

- at least one antenna;
- a receive processor that processes receive signals from said antenna and provides corresponding receive location information;
- a media access controller that receives signals from said receive processor and provides output signals for transmission;
- a location-information transformer that transforms said receive location information into transmit location information; and
- a transmit processor that provides transmit signals to said antenna in response to at least one of said output signals and said transmit location information;

wherein said media access controller compares the age of said receive location information with a predetermined time coherence and said transmit processor is configured to provide a transmit signal to said antenna that is:

spatially processed in accordance with said transmit location information if said age is less than said time coherence; and

spatially processed in accordance with predetermined location information if said age exceeds said time coherence.

3. (original) The communication device of claim 2, wherein said media access controller is configured to establish said time coherence from at least one of a predetermined value and a default value updated with observed changes of said receive location information.

4. (original) The communication device of claim 2, further including a database for storage of said receive location information and said age.

5. (currently amended) The communication device of claim 2 ~~1~~, wherein said media access controller is configured to direct spatial processing of said receive processor and said transmit processor.

6. (currently amended) The communication device of claim 2 ~~1~~, further including a modem that demodulates signals from said receive processor and modulates said output signals.

7. (currently amended) The A wireless communication device for communications with clients in a communication network of claim 1, the device comprising:

at least one antenna;

a receive processor that processes receive signals from said antenna and provides corresponding receive location information;

a media access controller that receives signals from said receive processor and provides output signals for transmission;

a location-information transformer that transforms said receive location information into transmit location information; and

a transmit processor that provides transmit signals to said antenna in response to at least one of said output signals and said transmit location information;

wherein said media access controller is configured to:

command said transmit processor to spatially process an output signal

carrying a channel reservation request in accordance with predetermined location information that corresponds to all of said clients; and
command said receive processor to spatially process a receive signal to enhance receipt of a clear channel acknowledgment from one of said clients and to provide corresponding receive location information to said location-information transformer.

8. (original) The communication device of claim 7, wherein said media access controller is configured to subsequently command said transmit processor to spatially process a data-carrying output signal in accordance with transmit location information from said location-information transformer.

9. (canceled) The communication device of claim 1, wherein said media access controller is configured to partition a data signal into data fragments and to:

command said transmit processor to provide a first data fragment to said antenna in an output signal that is spatially processed in accordance with predetermined location information that corresponds to all of said clients;

and

command said receive processor to spatially process a receive signal to enhance receipt of an acknowledgment from one of said clients and to provide corresponding receive location information to said location-information transformer.

10. (currently amended) The communication device of claim 8 [[9]], wherein said media access controller is configured to:

send a first data fragment of said data-carrying signal along with said channel reservation request; and

send remaining data fragments of said data-carrying signal in said output signal

~~subsequently command said transmit processor to provide remaining data fragments to said antenna in output signals that are spatially processed in~~

~~accordance with transmit location information from said location information transformer.~~

11. (currently amended) The A wireless communication device for communications with clients in a communication network of claim 1, the device comprising:

at least one antenna;

a receive processor that processes receive signals from said antenna and provides corresponding receive location information;

a media access controller that receives signals from said receive processor and provides output signals for transmission;

a location-information transformer that transforms said receive location information into transmit location information; and

a transmit processor that provides transmit signals to said antenna in response to at least one of said output signals and said transmit location information;

wherein said media access controller is configured to:

command said receive processor to spatially process a receive signal to enhance receipt of a channel reservation request from one of said clients and to provide corresponding receive location information to said location-information transformer; and

command said transmit processor to spatially process an output signal carrying a clear channel acknowledgment wherein said process is in accordance with predetermined location information that corresponds to all of said clients.

12. (original) The communication device of claim 11, wherein said media access controller is configured to subsequently command said receive processor to spatially process a data-carrying receive signal in accordance with transmit location information from said location-information transformer.

13. (currently amended) The A wireless communication device for communications with clients in a communication network of claim 1, the device comprising:

at least one antenna;

- 10 a receive processor that processes receive signals from said antenna and provides corresponding receive location information;
 a media access controller that receives signals from said receive processor and provides output signals for transmission;
 a location-information transformer that transforms said receive location information into transmit location information; and
 a transmit processor that provides transmit signals to said antenna in response to at least one of said output signals and said transmit location information;
 further including a plurality of modems for demodulating said receive signal and modulating said transmit signal and wherein said media access controller is configured to:
 command said receive processor to spatially process first and second receive signals to enhance receipt of channel reservation requests from first and second ones of said clients and to provide corresponding receive location information to said location-information transformer; and
 command said transmit processor to spatially process first and second output signals carrying clear channel acknowledgments wherein said process is in accordance with said transmit location information.

14. (original) The communication device of claim 13, wherein said media access controller is configured to subsequently command said receive processor to process first and second receive signals to enhance receipt of data from said first and second clients.

15. (currently amended) The communication device of claim 14 ~~[[1]]~~, wherein said media access controller is configured to measure and store receive and transmit signal propagation delays associated with at least one of said clients.

16. (currently amended) The A wireless communication device for communications with clients in a communication network ~~of claim 15, the device comprising:~~

- at least one antenna;
 a receive processor that processes receive signals from said antenna and

provides corresponding receive location information;
a media access controller that receives signals from said receive processor and
provides output signals for transmission;
a location-information transformer that transforms said receive location
information into transmit location information; and
a transmit processor that provides transmit signals to said antenna in
response to at least one of said output signals and said transmit location
information;
wherein said media access controller is configured to measure and store receive
and transmit signal propagation delays associated with at least one of
said clients; and
wherein said media access controller compares the age of said receive location
information with a predetermined time coherence and is configured to
adjust said age to accommodate said propagation delays.

17. (currently amended) The communication device of claim 16 ~~15~~, wherein
said media access controller is configured to advance said transmit signals to
accommodate said propagation delays.

18. (currently amended) The communication device of claim 16 ~~15~~, wherein
said media access controller is configured to extend reservation times for said
receive and transmit signals associated with a respective one of said clients.

19. (currently amended) The communication device of claim 16 ~~[[1]]~~, wherein
said transmit location information is in the form of at least one of a selected
antenna, a selected beam generated by said antenna, a phase/amplitude signal,
and a set of complex coefficients.

20. (canceled) The communication device of claim 1, wherein said media
access controller is configured to parse said receive signals and said output
signals.

21. (currently amended) The communication device of claim 16 ~~[[1]]~~, wherein
said receive processor, said media access controller, said location-information

transformer and said transmit processor are realized with at least one of a gate array[[s]] and an appropriately-programmed digital processor.

22. (canceled) A method for communicating with clients in a communication network, the method comprising the steps of:

processing receive signals obtained from at least one antenna to thereby provide input signals and corresponding receive location information;
in response to said input signals, providing output signals for transmission;
transforming said receive location information to transmit location information; and
providing transmit signals to said antenna in response to at least one of said output signals and said transmit location information.

23. (currently amended) The A method for communicating with clients in a communication network of claim 22, the method comprising the steps of:

processing receive signals obtained from at least one antenna to thereby provide input signals and corresponding receive location information;
in response to said input signals, providing output signals for transmission;
transforming said receive location information to transmit location information; and
providing transmit signals to said antenna in response to at least one of said output signals and said transmit location information;

further including the steps of:

comparing the age of said receive location information with a predetermined time coherence;
spatially processing said output signals in accordance with said transmit location information if said age is less than said time coherence; and
spatially processing said output signals in accordance with predetermined location information if said age exceeds said time coherence.

24. (original) The method of claim 23, further including the step of establishing said time coherence from at least one of a predetermined value and a default value updated with observed changes of said receive location information.

25. (original) The method of claim 23, further including the step of storing said receive location information and said age.

26. (currently amended) The method of claim 23 [[22]], wherein said receive signals are spatially processed and said output signals are spatially processed.

27. (currently amended) The method of claim 23 [[22]], further including the step of demodulating said input signals and modulating said output signals.

28. (currently amended) The A method for communicating with clients in a communication network of claim 22, the method comprising the steps of:

processing receive signals obtained from at least one antenna to thereby provide input signals and corresponding receive location information; in response to said input signals, providing output signals for transmission; transforming said receive location information to transmit location information; and providing transmit signals to said antenna in response to at least one of said output signals and said transmit location information;

wherein:

said providing step includes the step of spatially processing an output signal carrying a channel reservation request in accordance with predetermined location information that corresponds to all of said clients; and

said processing step includes the steps of spatially processing a receive signal to enhance receipt of a clear channel acknowledgment from one of said clients and providing corresponding receive location information.

29. (original) The method of claim 28, wherein said providing step further includes the step of subsequently spatially processing a data-carrying output signal in accordance with said transmit location information.

30. (canceled) The method of claim 22, further including the step of partitioning said a data signal into data fragments and wherein:

said providing step includes the step of sending a first data fragment to said

antenna in an output signal that is spatially processed in accordance with predetermined location information that corresponds to all of said clients; and

said processing step includes the steps of spatially processing a receive signal to enhance receipt of an acknowledgment from one of said clients and providing corresponding receive location information.

31. (currently amended) The method of claim 29 ~~30~~, wherein said providing step further includes the steps of:

sending a first data fragment of said data-carrying signal along with said channel reservation request; and

sending remaining data fragments of said data-carrying signal in said spatially processing step to said antenna in output signals that are spatially processed in accordance with said transmit location information.

32. (currently amended) The A method for communicating with clients in a communication network of claim 22, the method comprising the steps of:

processing receive signals obtained from at least one antenna to thereby provide input signals and corresponding receive location information;

in response to said input signals, providing output signals for transmission;

transforming said receive location information to transmit location information; and

providing transmit signals to said antenna in response to at least one of said output signals and said transmit location information;

wherein:

said processing step includes the steps of spatially processing a receive signal to enhance receipt of a channel reservation request from one of said clients and providing corresponding receive location information; and

said providing step includes the step of spatially processing an output signal carrying a clear channel acknowledgment wherein said process is in accordance with predetermined location information that corresponds to all of said clients.

33. (original) The method of claim 32, wherein said processing step further includes the step of spatially processing a data-carrying receive signal in accordance with said transmit location information.

34. (currently amended) The A method for communicating with clients in a communication network of claim 22, the method comprising the steps of:
processing receive signals obtained from at least one antenna to thereby
provide input signals and corresponding receive location information;
in response to said input signals, providing output signals for transmission;
transforming said receive location information to transmit location
information; and
providing transmit signals to said antenna in response to at least one of said
output signals and said transmit location information;
further including the steps of:
independently demodulating a plurality of said input signals;
independently modulating a plurality of said transmit signals;
and wherein:
said processing step includes the steps of spatially processing first and second
receive signals to enhance receipt of channel reservation requests from
first and second ones of said clients and providing corresponding receive
location information; and
said providing step includes the step of spatially processing first and second
output signals carrying clear channel acknowledgments wherein said
process is in accordance with said transmit location information.

35. (original) The method of claim 34, further including the step of processing first and second receive signals to enhance receipt of data from said first and second clients.

36. (currently amended) The method of claim ~~35~~ 22, further including the steps of measuring and storing receive and transmit signal propagation delays associated with at least one of said clients.

37. (currently amended) The A method for communicating with clients in a

communication network of claim 36, the method comprising the steps of:
processing receive signals obtained from at least one antenna to thereby
provide input signals and corresponding receive location information;
in response to said input signals, providing output signals for transmission;
transforming said receive location information to transmit location
information; and
providing transmit signals to said antenna in response to at least one of said
output signals and said transmit location information;
further including the steps of measuring and storing receive and transmit
signal propagation delays associated with at least one of said clients;
and further including the steps of:
comparing the age of said receive location information with a predetermined
time coherence; and
adjusting said age to accommodate said propagation delays.

38. (currently amended) The method of claim 37 ~~36~~, further including the step of advancing said transmit signals to accommodate said propagation delays.

39. (currently amended) The method of claim 37 ~~32~~, further including the step of extending reservation times for said receive and transmit signals associated with a respective one of said clients.

40. (currently amended) The method of claim 37 ~~22~~, further including the step of storing said transmit location information in the form of at least one of a selected antenna, a selected beam generated by said antenna, a phase/amplitude signal, and a set of complex coefficients.

41. (canceled) The method of claim 22, further including the steps of parsing said received signals and said output signal.